

N. M., and on the 26th on the Military line running southward from Santa Fé toward Mesilla, by electrical storms prevailing between those points.

## OPTICAL PHENOMENA.

(1) *Mirage*.—The phenomena of mirage were recorded as follows: At New London, Conn., 5th, 21st, 22d, 26th and 27th; Atlantic City, N. J., 25th; Breckenridge, Minn., 1st, 15th and 18th; Atlanta, Kan., 3d, 6th, 7th, 10th, 11th, 14th, 16th, 18th, 25th and 28th; Ellinwood, Kan., 10th, 11th, 16th; 17th, 18th, 19th and 28th; Morehead, Minn., 29th.

(2) *Solar Halos*.—1st, Neb., Iowa, Minn., N. H., N. Y., Vt. and Wis.; 2d, N. Y., Kan., Mich., Neb., Ill., La. and Ohio; 3d, N. Y., Mass., N. J., Dak., Conn., Iowa, Me., Minn. and Va.; 4th, Minn., Neb., Iowa, N. H., Ohio and Wis.; 5th, N. Y., Mich., Neb., Iowa, Minn., Ohio and Penn.; 6th, N. C., Mich., N. Y., N. J., Wis., Neb., Iowa, Me., Minn. and N. H.; 7th, N. J., Mich., Iowa, Ill., Neb., N. H., N. Y., Ohio, Penn. and Wis.; 8th, N. Y., Mich., Mass., Penn. and Vt.; 9th, N. C., Me., Kan. and Iowa; 10th, Me., N. Y., Dak., Conn. and Minn.; 11th, Miss. and Ohio; 12th, N. Y., Mich., Wis., Ill., Iowa, Ohio and Wis.; 13th, N. C., Me., Kan., Ill., Iowa, N. H. and Ohio; 14th, N. C., Minn., Neb., Ind. and Ky.; 15th, N. C., Col., Iowa, Neb. and Wis.; 17th, Mich.; 18th, Mich., Ill. and Neb.; 19th, N. J., Mass., Conn., W. Va., Iowa, Dak., Me., Neb., N. H., N. Y., Ohio and Penn.; 20th, Neb. and Ind.; 21st, N. J., N. C., N. Y., Mass., Conn., Del., Iowa, Me., N. H., Ohio, Penn. and Vt.; 22d, Minn. and Cal.; 23d, Ohio and Wis.; 24th, Ill. and N. Y.; 25th, Mich.; Minn., Neb., Ill., Iowa, N. Y., Ohio and Wis.; 26th, N. Y., N. J., Kan., Miss., Nev., N. H., Penn. and Vt.; 27th, N. Y., Ill. and Me.; 28th, Me., Fla., N. J., Texas and Mich.; 29th, Ill., Iowa, Conn. and Wis.

(3) *Lunar Halos*.—1st, Neb.; 2d, Miss., La., Kan., Ind., Texas, Ill., Iowa, Ken., Mich., Minn. and Mo.; 3d, Texas, N. C., Me., Mass., Ill., Wis., Dak., Iowa, Minn., N. H. and Va.; 4th, Texas, Mass., Ala., Ill., Mich., N. C. and Ohio; 5th, Col., R. I., N. C., Mass., Ill., Mich., Ind., Kan., Tenn., Wis., Ohio, Dak., Ky., Neb., Iowa, Minn. and Miss.; 6th, N. M., Col., Penn., Ohio, Ind., Kan., Tenn., Iowa, Ill., Ky., Neb. and Mo.; 7th, N. J., Md., N. M., Col., Me., Mass., N. Y., Ohio, R. I., Penn., Tenn., Mich., Ill., Wis., Ky., Neb., Conn., Del., Ind., Kan., N. H. and Vt.; 8th, N. J., N. Y., N. C., Me., Penn., Mass., Va., Conn., Kan., Minn., Ala., N. H., Ohio, Vt. and Wis.; 9th, N. C., Kan., Dak., Texas, Del., Neb. and Ohio; 10th, N. J., Texas, N. C., Me., Conn., Ill., N. Y., Va., Iowa, Ind. and Penn.; 11th, Mass., Ill., Minn., Dak., Neb., Ind., Iowa, La., Va. and Wis.; 12th, N. C., Mich., Ohio, N. Y., Conn., Ill., Wis., Del., Iowa and La.; 13th, Ill. and N. Y.; 14th, Iowa; 15th, Kan.; 18th, Neb.; 19th, Me. and Ohio; 28th, Me. and Ill.; 29th, N. C., Ill. and N. H.

## MISCELLANEOUS PHENOMENA.

(1) *Polar Birds* were reported on the 5th, at Malabar, N. Y.; 7th, Carthage, Ohio; 19th, Abington, Ill., Wytheville and Norfolk, Va.; 20th, Carthage, Ohio; 22d, Auburn, N. H.; 23d, Charleston, S. C.; 24th, Auburn, N. H.; 26th, Auburn, N. H.

(2) *Vegetable Phenomena*.—*Peach trees*, in bloom, at Charleston, S. C., 28th; Montgomery, Ala., 12th; Humboldt, Tenn., 29th; Green Spring, Ala., 1st to 10th; Welborn, Fla., 18th; Salisbury, N. C., 12th; Aiken, S. C., 7th; McMinnville, Tenn., 25th; Clarksville, Tenn., 27th; Austin, Texas, 7th; Norwich, Va., 20th; Prospect Hill, Va., 16th; Wytheville, Va., 14th. *Plum trees*, in bloom, at Welborn, Fla., 12th; McMinnville, Tenn., 26th; Clarksville, Tenn., 27th. *Apricot trees*, in bloom, at Norwich, Vt., 20th. *Elm trees*, in bloom at Baxter Springs, Kan., 29th. *Maple trees*, in bloom, at Havana, Ill., 27th; budding at Monticello, Iowa, 20th; in bloom at LeRoy, Kan., 10th; in bloom at Baxter Springs, Kan., 18th. *Lilacs*, budding, at Monticello, Iowa, 20th; budding out at Wytheville, Va., 14th. *Roses*, budding, at Morgantown, W. Va., 18th; in bloom, at Welborn, Fla., 24th. *Orange trees*, in blossom, at Newport, Fla., 31st; Welborn, Fla., 28th. *Bananas*, budding, at Newport Fla., 31st. *Foster flowers*, in bloom, at Welborn, Fla., 20th. *Crocus*, in bloom, at Freehold, N. J., 12th; Chambersburg, Penn., 13th; Clarksville, Tenn., 10th; Norwich, Vt., 7th; Prospect Hill, Va., 11th; Wytheville, Va., 29th. *Violets*, in bloom, at Freehold, N. J., 29th. *Hyalanthus*, in bloom, at Clarksville, Tenn., 18th.

(3) *Animal Phenomena*.—*Birds*: On the 20th, arrived at West Point, N. Y.; 19th, seen at Southington, Conn.; 12th, at Louisville, Ill.; 19th, at Havana, Ill.; during the month, at Leeburg, Ind.; 14th, at Fort Madison, Iowa; 8th, at Holton, Kan.; 5th, LeRoy, Kan.; 29th, at Atchison, Kan.; 28th, at Hinsdale, Mass.; 8th, at Westborough, Mass.; 12th, at Wappinger's Falls, N. Y.; 7th, at College Hill, Ohio; 23d, at Jacksonburg, Ohio; 27th, at Mt. Auburn, Ohio; 9th, at Hanover, Penn.; 10th, at Chambersburg, Penn.; 26th, at Salem, W. Va.; 17th, at Morgantown, W. Va. *Ducks*: 17th, canvas-backs seen at Golden, Col.; 14th, wild ducks seen at Millard, Del.; 14th, flying south at Hennepin, Ill., and 25th, flying north; 12th, flying north at Riley, Ill.; 25th, flying north at Somonauk, Ill.; during the month, at Leeburg, Ind.; during the month, abundant at Corning, Mo.; 11th, flying north at Carthage, Ohio. *Robins*: 19th, at Southington, Conn.; 27th, at Hennepin, Ill.; 25th, at Louisville, Ill.; 26th, at Somonauk, Ill.; 19th, at Vevay, Ind.; 12th, at Fort Madison, Iowa; 5th, at LeRoy, Kan.; 29th, at Atchison, Kan.; 22d, at Hudson, Mich.; 13th, heard at Freehold, N. J.; 13th, at Wappinger's Falls, N. Y.; 25th, at Marion, Ohio; 27th, at Westerville, Ohio; 26th, at Kenton, Ohio; 29th, at Jacksonburg, Ohio; 25th, at Mt. Auburn, Ohio. *Wild Geese*: 5th, 6th and 9th, flying north at Plattsburgh, Neb.; 2nd, flying south at De Soto, Neb.; 19th, flying north at Genoa, Neb.; 15th, flying north at Hightstown, N. J.; 14th, flying north at Flushing, N. Y.;

24th, flying north at College Hill, Ohio; 19th and 26th, flying south at Carthagena, Ohio; 1st, flying northwest at Jacksonsburg, Ohio; 27th, flying north at Hanover, Penn.; 13th, flying east and 29th, southeast at Alto Vista, Va.; 11th, flying north at Goshen Bridge, Va.; 27th, flying north at Salem, W. Va.; 28th, at Bloomfield, Wis.; 11th, flying north at Morgantown, W. Va.; 26th, flying north at Ft. Sully, Dak.; 11th, flying north at Davenport, Iowa; 14th, seen at Milford, Del.; 19th, flying southwest at Hennepin, Ill., and 25th north; on the 12th, flying north at Louisville and Riley, Ill., and 26th, flying north at Peoria, Ill.; 27th, flying northwest at Mt. Sterling, Ill.; 25th, flying north at Somonauk, Ill.; during the month remained at Leesburg, Ind.; 9th, flying north at Afton, Iowa; 10th, flying north at Independence, Iowa; 10th and 29th, flying south at Council Bluffs, Iowa; 10th, flying north at Monticello, Iowa; 9th, flying north at Webster City, Iowa; 9th, flying north at Holton, Kan.; 16th, flying north at Baxter Springs, Kan.; during the month, abundant at Corning, Mo. *Sand-hill cranes*: 24th, flying north at Welborn, Fla. *Larks*: 29th, flying north at Welborn, Fla.; 27th, appeared at Hennepin, Ill.; 27th, seen at Ft. Madison, Iowa; 11th, at Holton, Kan.; 10th, seen at Genoa, Neb.; 13th, seen at Jacksonsburg. *Swallows*: 19th at Peoria, Ill.; 8th, 10th and 11th, seen at Chambersburg, Penn. *Buzzards*: 26th, seen at Jacksonsburg, Ohio. *Crows*: 24th, flying north at College Hill, Ohio. *Brants*: flying northwest at Richmond, Neb. *Chewink*: 6th, seen at Kensico, N. Y. *Red birds*: 3rd, seen at Westerville, Ohio. *Prairie Chickens*: on the 26th, seen at Somonauk, Ill. *Blackbirds*: on the 19th, seen at Vevay, Ind.; 10th, seen at Monticello, Iowa; 20th, seen at Alto Vista, Va.; 25th at Colorado Springs, Col.; 22nd, 28th and 29th, flying southwest and the 26th flying north at Morgantown, W. Va. *Wild Pigeons*: 10th, seen at Monticello, Iowa, 29th, flying northeast at Jacksonsburg, Ohio; 12th, flying north at Breckenridge, Minn. *Killdeer*: 12th, seen at Fort Madison, Iowa; 10th at Baxter Springs, Kan. *Wild Swans*: 20th flying north at Vail, Iowa. *Mocking Birds*, 12th, begin to sing at Montgomery, Ala. *Grasshoppers*: 19th, hatched out at Golden, Col.; 10th, on wheat at Belmont Farm, Texas. *Butterflies and Wasps*: on the 26th, at Fort Lyon, Col.; *Butterflies*, 25th, at Corning, Mo. *Bees*: On the 10th, at Havana, Ill.; 9th, seen at Afton, Iowa; 8th, Le Roy, Kan.; 10th, at Accotink, Va. *Snakes*: 25th, seen at Hudson, Mich. *Frogs*: 25th, heard at Corning, Mo.; 10th and 11th, heard at Bethel, Ohio; 9th to 29th, at Goshen Bridge, Va.; 9th, 12th and 14th, at Salem, W. Va.

(4) *Prairie Fires* occurred near Fort Lyon, Col., on the 2d, 12th, 14th to 19th and 24th; Fort Randall, Dakota, 5th and 22d; Council Bluffs, Iowa, 3d to 6th; Monticello, Iowa, 26th; Burlingame, Kan., 17th, 20th and 27th; Emerson, Neb., 18th and 19th; De Sota, Neb., 6th, 24th and 25th; Genoa, Neb., 19th and 21st; Dodge City, Kan., 1st, 12th, 15th and 25th; Corsicana, Texas, 14th. *Forest Fires*: Near Wappinger's Falls, N. Y., 20th and 21st; Colorado Springs, Col., 9th; St. Marks, Fla., 18th, 19th and 20th.

(5) *Meteors* were observed on the 1st at Fort Lyon, Col.; 4th, Ephrata, Penn.; 7th, Davenport, Iowa; 12th, Belmont Farm, Texas, Milwaukee, Wis. and Waterburgh, N. Y.; 14th, 16th and 24th, Dodge City, Kan.; 18th, Fall River, Mass. and Newport, R. I.; 19th, Carbonale, Ill.; 19th and 20th, Smithville, N. C.; 22d, Vevay, Ind.; 23d, Ringgold, Ohio; 25th, Vail, Iowa and Auburn, N. H.

(6) *Zodiacal Light*—was observed at Abington, Ill., on the 16th, 19th and 26th; Ellenwood, Kan., 14th and 21st; Somerset, Mass., 23rd, 24th, 25th and 26th; Florida, Mass., 12th and 13th; Auburn, N. H., 25th; Hightstown, N. J., 25th; Waterburg, N. Y., 11th and 19th; College Hill, Ohio, 17th, 18th, 19th, 21st and 24th; Urbana, Ohio, 5th, 17th, 22nd, 23rd and 24th; Carthagena, Ohio, 11th, 17th, 18th, 19th and 21st.

(7) *Earthquakes*.—The only earthquake reported occurred in the City of Mexico on the 7th.

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Albert J. Myers

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